NOTE VIII.

ON A SPECIMEN OF PERIPATUS, GUILD. FROM SUMATRA.

BY

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(Plate 2, fig. 1—5).

The species of the interesting genus *Péripatus*, hitherto mentioned, are only found in three parts of the globe, far distant from each other: South America (including the West-Indies)', the Cape of Good Hope and New-Zealand. Therefore it seems not without interest to me, to give a short description of a specimen, found by my colleague Mr. Ritsema in a bottle with Insects from East-Sumatra, presented to our Museum by Mr. W. E. J. Hekmeyer.

The length of the whole animal measures only 25 m.m., its greatest breadth 3$^1/_2$ m.m. The dorsal side of the body is slightly arched, its ventral surface nearly flat; there is a narrow shallow groove running along the middle of the back. The skin presents narrow transverse ridges, passing between the legs from the dorsal to the ventral side and surrounding the whole body; the legs are also faintly ringed. The ridges are beset by a number of warts, which are very developed on the legs. Each wart appears to consist of a truncated cone, bearing on its top a small cylinder, provided with a spine, while the surface of the wart is covered by numerous minute tubercles, which are also scattered over the whole skin between the warts, giving it a net-like appearance.

The antennae have a length of 4 m.m. and taper slightly till near their top, where they present a club-shaped enlargement; they are surrounded by about 47 rings of warts. The oral papillae possess a naked ring around their middle and are furnished with two rings of warts beneath the slightly bifurcated top.

There are 24 pairs of claw-bearing legs; they are not much differentiated from the main body, but look like blunt conical prolongations of the lateral body-wall. Each ambulatory appendage (fig. 2) consists of a proximal and a distal division, that we may call, according to Mr. Balfour, the leg and the foot (fig. 3). At the ventral side of the leg, near its distal end, the rings of warts are substituted by four crescent-shaped pads, the external of which is the broadest; these pads are densely covered with spines, resembling the spines standing on the top of the warts. The foot is attached to the distal end of the leg by a narrowed portion, having a triangular form at the ventral side. The remaining part of the ventral side of the foot is divided, by a longitudinal and a transverse groove, into four elevations; the distal end of the foot bears the pair of sickle-shaped claws, on each side of which a large papilla is placed. Near the basal part of the ventral surface of each leg is a fissure, the segmental groove; in the two last pairs of legs however this groove is wanting (fig. 4). I have not been able to observe the external orifices of the segmental organs.

The opening of the mouth is surrounded by a lip, consisting of several ridges, arranged in an external and an internal circle; the external one is slightly developed and surrounds but the upper two thirds of the internal circle (fig. 5). The internal series consists of a pair of larger ridges in front, and a pair of smaller ones behind the oral fissure, while there are four or five ridges on each side. The jaws were not visible, and also by opening the buccal cavity I could not find them out; I regret it therefore the more, as according to Mr. Balfour the form of the jaws differs somewhat in the different species and forms a good specific character. 1)

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1) Quart. Journal of Microsc. Science, Vol. XXIII, 1883, p. 222.

The generative orifice is situated between the penultimate pair of legs and has the form of a cross-shaped fissure between four papillae. The anus is placed between the last pair of legs; it is not quite terminal, the end of the body somewhat projecting beyond them (fig. 4).

The colour of the body is dark, blackish brown, the ventral side paler, greyish; there is a dark line along the middle of the back, produced by the above mentioned groove. Some small white spots are scattered over the dorsal surface, but they seem only to be produced by the loosening of the cuticle from the top of the papillae.

Though our specimen differs from all the known species of Peripatus by the number of its legs (24), it is difficult to state if it really represents a new species, because that number seems not always to be quite constant; moreover I wanted almost entirely the material for comparison, and the descriptions of the greater part of the dozen mentioned species are too short and vague, to distinguish them sufficiently. We hope that the announced Monograph of Moseley and Sedgwick on »the species of *Peripatus*" will soon clear up this matter.

The only species we know very well to day, owing to the careful investigations of Grube [1]), Moseley [2]), Balfour [3]), Gaffron [4]), Kennel [5]), Hutton [6]), a.o., are: *P. capensis* Gr., *P. Edwardsii* Blanch. and *P. Novae-Zealandiae* Hutt. Through the kindness of my friend Prof. Max Weber I have been able to examine a specimen of the last mentioned species.

P. Novae-Zealandiae differs from our Sumatra-specimen not only by having 15 pairs of legs, but also by its habit being quite different, more slender, not unlike that of a caterpillar. The specimen measures 35 m. m. Its colour, corres-

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1) Archiv f. Anat. und Physiol. 1853, p. 322.

2) Phil. Transact. Royal Soc. of London, 1874, p. 757.

3) loc. cit.

4) Zoolog. Beiträge von A. Schneider, Bd. I, 1883, p. 33.

5) Arbeiten Zool. Zoot. Institut in Würzburg, Bd. VII, 1885, p. 95.

6) Ann. a. Mag. Nat. Hist. 1876, p. 361.

ponding very well with Hutton's description, is olive-green, marbled with brown, with a light lateral band above the legs and a row of x-shaped white spots along the middle of the ventral side. A dark line, running along the middle of the back, is produced by a groove, like in the Sumatra-specimen. The legs are longer, situated at a much greater distance from each other than in our specimen; they are furnished at their ventral side only with three pads, two broad distal and a proximal one, resembling those of *P. capensis*. The 4th and 5th pair of legs are characterized by possessing a white papilla on the proximal pad. The anus is exactly terminal and the generative aperture situated between the last pair of legs, like in *P. capensis*; if this last pair is provided with claws or not, I could not make out, because they seemed not quite intact.

Comparing our Sumatra-specimen with *P. Edwardsii*, we find more resemblance with this species than with any one of the Eastern hemisphere, except in the number of legs, which usually seems to amount to thirty pairs. 1) In *P. Edwardsii* not only the structure of the skin (with its characteristic papillae) and the shape of the legs seem to be similar to that of the Sumatra-specimen, but moreover the generative orifice is situated between the penultimate pair of legs, on the third ring from the end of the body. Having only a single specimen at my disposal, I could not examine the structure of the internal organs; it should not have been without interest, because the examination of the species, above referred to, has learned us, that in *P. Edwardsii* the female reproductive organ is provided with a receptaculum seminis, while *P. capensis* and *P. Novae-Zealandiae* seem to want it.

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1) Peters (Sitzungsber. Gesellsch. Naturf. Freunde zu Berlin, 1880, p. 28) mentions specimens from Portorico with only 27 pairs of legs; Grube observed a specimen with 29 pairs.

Explanation of the plate.

Fig. 1. Peripatus from Sumatra. × 2 diam.

Fig. 2. The 6th leg, viewed from the ventral side. × 36 diam.

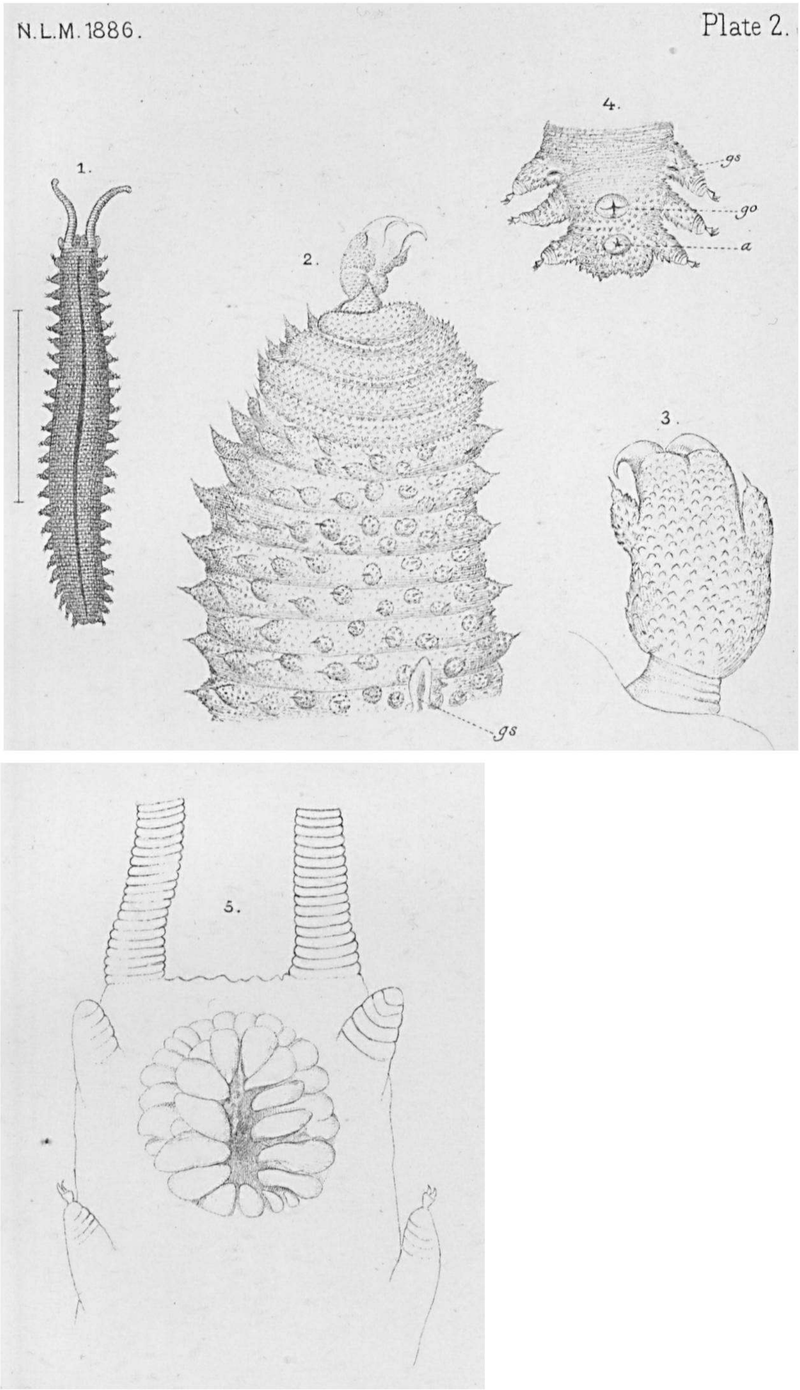
Fig. 3. The foot of the same leg, viewed from the dorsal side. × 90 diam.

Fig. 4. The posterior part of the body, viewed from the ventral side. × 6 diam.
gs. segmental groove; *go.* generative orifice; *a.* anus.

Fig. 5. Ventral view of the head, with the opening of the mouth. × 20 diam.

N.L.M. 1886.

Plate 2.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2.
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gs
go
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Dr. R. Horst et H. Verlint, ad nat. del. H. Verlint lith. P. W. M. Trap impr.

1-5. PERIPATUS FROM SUMATRA.